REMARKS

Applicant could not traverse the examiner's requirement for election of species without admitting that the several species were not patentably distinct. The examiner has not addressed applicant's observation in the the reply to the first Office Action that the examiner's requirement for election of species was improper. The examiner has examined on the merits all claims other than claims 20 and 21. Since claim 1 refers to the limitation of receiving at least one attribute (FIG. 12A) and claim 3 refers to the discovery process (step 1020 of FIG. 10), applicant infers that the examiner has accepted that applicant's election of species III does not preclude presentation of claims that recite the discovery process.

All claims now presented refer (whether in terms of software or in terms of method steps) to the discovery process and receiving attributes.

Claims 1-5 stand rejected under 35 USC 101. The examiner argues that claims 1-5 are drawn to functional descriptive material not claimed as residing on a computer readable medium. Applicant respectfully disagrees, since claim 1, for example, clearly recites "In a computer readable medium, ... software for ..." and is therefore drawn to software residing on a computer readable medium. Nevertheless, applicant has rewritten claim 1 so that it is now explicitly directed to a computer readable medium encoded with software, as suggested by the examiner.

Claims 1-19 stand rejected under 35 USC 103. The examiner relies on Lobiondo as the primary reference.

The disclosure in Lobiondo relates to a printshop management scheduling routines which provide optimum scheduling of printer jobs on a network (col 1, lines 6-8) and the main embodiment relates to a static and permanently connected network printing arrangement (FIG. 1). As shown in FIG. 1, a PC or workstation 30 is connected to a print server or spooler 60 and the print server 60 is connected to a scheduler 50. The print server 60 is connected to a plurality of printers 10 (See col 3 lines 16-18). The information regarding the printers in the network is stored in a database (FIG. 3) contained in the scheduler 50 (see FIG. 3 and col 3, line 65-68). The database is stored in memory (col 4, line 1, line 9). This information is not

discovered or found over a wireless communication channel between an information apparatus and an output device.

Unlike a mobile printing environment, Lobiondo states that printers in a network printing environment do not usually change (see col 4 lines 3-8).

The present invention relates to mobile wireless data output and pervasive computing, and in one exemplary embodiment of present application relates to solving the problem of pervasive mobile data output. The present invention allows an information apparatus output content pervasively to different output devices anywhere without the need to install multiple dedicated device drivern or applications for each output device with different brand and model.

Specifically applicant notes that:

1. Lobiondo does not disclose or teach printing a document directly from an information apparatus document to an output device. FIG. 1 clearly shows that the PC or workstation 30 must be physically connected to a print server 60 which is connected to the scheduler 50. See also FIG. 4 step 410 and step 420. The user submits a print job which is sent to the print server for scheduling the job. Removing the print server from 60 FIG. 1 equates to removing the scheduler, and Lobiondo's method and apparatus will no longer function.

2. Lobiondo does not disclose or teach a method of printing without installing or pre-installing device specific printer drivers that enables mobile printing. Lobiondo requires that a user submits the print job to the print server and the scheduler (FIG. 4 and col 6 line 51). The print server includes in its memory printer files and applications (printer drivers) that manage the printing process. The printer files and application are pre-stored in its memory (col 3 lines 51-60, lines 65-68).

3. Lobiondo does not disclose or suggest a method of wireless printing since Lobiondo teaches printing on a static wired connected LAN (col 3, line 24).

4. Lobiondo does not disclose or suggest establishing a communication channel between the information apparatus and the output device. However, the examiner asserts that it would be obvious to one of ordinary skill in the art to provide a communication channel between the information apparatus and the output device. The applicant notes that the communication channel is short range mobile and casual

wireless communication channel. This is in the field of pervasive wireless computing (and further includes the art of wireless security, protocol stack, radio, antenna, serial port, signal processing etc), which is different field of endeavor from network printing. Furthermore, the entire teachings of Lobiondo requires and is based on the embodiment that the communication goes from the PC 30 to print server 60 then goes to the printer 10. This is different from establishing a direct channel of communication from the information apparatus to the output device as set forth in applicant's claims (see also item 1 above).

5. The examiner states that Lobiondo teaches software for selecting an output device based at least in part on the received attributes (Col 4, lines 45-69). Applicant notes that Lobiondo states (Col 4, lines 45-69) that the user inputs the time for scheduling a print job, and it does not disclose or teach selecting an output device. Moreover, Lobiondo does not suggest selecting an output device based on attributes received from the wireless communication channel.

6. The examiner states that Lobiondo teaches software for discovering, from an information apparatus, an output device that is available for output (col 2, line 53). Applicant notes that Lobiondo does not search, discover or find any output device. Instead, the printer information is pre-stored in the memory in the database contained in the scheduler 50 connected to the print server 60 (col 3, lines 64-69, col 4, lines 8-12). The scheduler already contains the information related to the printer with pre-stored data; the information is not obtained by searching, or discovering.

7. The examiner states that Lobiondo teaches software for selecting an output device based at least in part on the received attributes (Col 4, line 45-69). Applicant notes that Lobiondo only states that a user inputs the time for scheduling a print job (Col 4, line 45-69), and does not disclose or teach selecting an output device, and even more remotely does it suggest selecting an output device base on attributes received from a direct wireless communication channel.

8. The examiner states that printer files (col 3 line 65-68) are viewed as the output device profile. Applicant notes that the printer files (col 3 line 65-68) are pre-stored in the database located in the memory of scheduler 50 (see also FIG. 3). The printer files are not

obtained from the output device through a direct wireless communication channel between the information apparatus and the output device.

9. The examiner states that conforming at least part of the content employing at least in part one or more attributes received from the output device is taught by Lobiondo (col 5, line 15-25). Applicant notes that according to Lobiondo (col 5, line 15-25) the scheduler can automatically designate the print location or use a user selected print location. This disclosure is not related to teaching the subject of conforming content, at the information apparatus, into print data for output.

10. Lobiondo does not teach generating an output data, at the information apparatus, that include one or more output images, but the examiner asserts that Gase teaches (col 5, line 14-20) this feature. Applicant notes that Gase (in col 5, line 14-20) states that the print server 18 includes one or more printer drivers. A printer driver converts content into print data compatible for input to the printer and should not be confused with images included in the output data. Specifically Gase does not teach:

a. Mobile printing without printer drivers.

b. Printing directly from the information apparatus to the printer without a printer server (see FIG. 1).

c. Generating output data from the information apparatus. The printer driver in Gase is located in the print server 18, not at the information apparatus 14 and 16. Therefore, the output data would not be generated from the information apparatus.

d. Conforming at least part of the content to an output data that includes one or more images related at least in part to the content. Multiple printer drivers are not the same as one or more images related to the content.

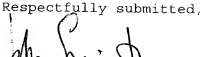
11. The examiner states that Buckley in the area of optimizing printing of a document with different type to objects in the document teaches wireless printing (col 6, line 1-8, Col 5 line 32-35, col 5, line 55-60). Applicant notes that Buckley merely states that the link 152, 162, 202, 302 and 312 in FIG. 2 can be implemented with wire or wireless connections; however, Buckley does not teach or disclose anything further beyond this statement. There is no descriptions of

wireless printing design or implementation whether in the figures or in the specification. Specifically, Buckley did not disclose:
a. A method of pervasive mobile printing. It discloses a method of network printing (see fig 2).
b. A UI or process for mobile wireless printing that includes searching for a wireless device, authentication, opening a direct wireless communication channel etc (see FIGS. 3, 4, 5 relating the network printing).
c. Rendering a document using attributes received at the information apparatus and over a wireless communication channel with the output device.
d. Mobile printing without printer drivers (see col 7, line 33), multiple printer drivers are stored in the memory portion of the computer 100 (FIG. 2, item 132)
e. Printing directly from the information apparatus to the printer without a printer server (see FIG. 1). The computer 100 is connected to a print server 200 through link 210.

Applicant submits that pervasive mobile computing is in a different field of endeavor from printing, and that it would not have been obvious to a person of ordinary skill in the art in one field of endeavor (e.g. printing) to combine teaching of another field of endeavor (mobile computing) or vice versa. Wireless printing is not the same as pervasive mobile printing. Replacing cable with wireless does not enable a mobile user to print on the go with a mobile device. The mobile user must still install multiple printer drivers or have them pre-installed them in the mobile device. Buckley does not disclose or teach how wireless printing is implemented, but even if all the wired links described in Lobiondo, Gase, and Buckley network printing methods were wireless, the references, taken singly or in combination, would not disclose or suggest pervasive mobile printing. In order for a mobile user to print on a selected printer using the teaching of the prior art, a printer driver for the selected printer must be installed on the modile device.

In view of the foregoing, applicant submits that all claims now of record are patentable over the prior art.

Respectfully submitted,



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